



Pericardial/Myocardial Disease/Pulmonary Hypertension

CHANGES IN RIGHT VENTRICULAR STRUCTURE AND PERFORMANCE IN MORBIDLY OBESE PATIENTS AFTER BARIATRIC SURGERY: A CMR STUDY

Moderated Poster Contributions

Poster Sessions, Expo North

Sunday, March 10, 2013, 9:45 a.m.-10:30 a.m.

Session Title: Potential Ways to Improve Myocardial Function with Pre-Existing Therapies

Abstract Category: 23. Pericardial/Myocardial Disease

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Background: Assessment of right ventricular anatomy and function in morbidly obese patients has been limited as it is particularly challenging in them.

Objective: to assess RV structure and function in morbidly obese patients undergoing bariatric surgery.

Methods: Patients accepted for bariatric surgery were prospectively recruited. In each case, CMR was performed on a 1.5 T scanner before surgery and 1 year after the procedure. SSFP cine images were acquired in the 3 orthogonal axes. Manual tracings of the endocardial and epicardial borders at end-diastole and end-systole were performed.

Results: 16 patients were included, 13 (81.25%) female. Overall, mean RV mass, RVEDV, RVESV and index values were within normal limits before surgery (the table). After surgery, RV mass decreased, RVED and RVESV decreased by 9%, 12% and 35% respectively, and RV EF improved by 18%.

Conclusions: RV structure and function in morbidly obese patients improve significantly after bariatric surgery. CMR is an accurate tool to assess RV mass, volumes and function in these patients.

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Table legend. Data are expressed as mean \pm mean standard error. BMI= Body mass index. RVmass: Right ventricular mass. RVED: RV end diastolic volume. RVES: RV end systolic volume. RVSV: RV stroke volume. RVEF: RV ejection fraction. REDVI: Right end diastolic volume index. RESVI: Right end systolic volume index.

Right Ventricular structural and functional features before and after bariatric surgery

N=16	PRE	POST	P value
BMI (kg/m ²)	47.43 \pm 5.80	31.65 \pm 4.48	P=0.0001
RMASS (g)	45.50 \pm 11.33	41.44 \pm 14.51	P=0.70
RVED (ml)	161.57 \pm 29.38	142.51 \pm 30.44	P=0.013
RVES (ml)	69.28 \pm 25.42	45.61 \pm 17.39	P= 0.005
RVSV (ml)	92.28 \pm 18.94	96.83 \pm 18.79	P=0.431
RVEF (%)	57.87 \pm 10.41	68.50 \pm 8.20	P=0.014
REDVI (ml/m ²)	73.40 \pm 13.53	76.29 \pm 10.50	P=0.423
RESVI (ml/m ²)	39.08 \pm 5.43	22.14 \pm 3.08	P=0.05